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ABSTRACT

The case studies presented by seven school psychologists illustrate the nature and scope of psychological intervention with emotionally disturbed and otherwise handicapped students. Included are papers with the following titles and authors: "Desensitization--An Approach to the Elimination of Phobic Behavior" (E. Asmus); "Reduction of Classroom Noise with a DRL (differential reinforcement of lower rates) Reinforcement Schedule" (P. Bowser); "Reducing Self Stimulatory Behavior by Increasing Talk Behavior in an Elementary School Boy" (J. Heider); "The Use of Behavior Modification in Attempting to Elicit Verbalization from an Electively Mute Child" (R. Ranes); "The Use of Tapes and Textbooks Together for Non-Readers in High School" (E. Schrader); "Contact System to Improve Increase Assignments Completed and Decrease Fighting Behavior" (B. Thomson); and "A Method of Increasing and Redistributing Praise Rates and Suppressing Negative Interactions of Preschool Teachers" (W. Wright). (SBH)

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Case Studies In School Psychological Services

Vol. I, 1977

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FORWARD

School psychology applies the science of psychology to educational and behavioral problems of preschool and school age children. The goal of this profession is to maximize the human potential of children and assist parents, families members and educators in providing environments which are responsive to the developmental and learning needs of children.

The case studies presented in this publication were contributed by school psychologists working in Iowa during the 1976-77 school year. These studies are provided as examples of the nature and scope of psychological intervention in the schools.

The school psychologist, functioning in a consultative capacity, can often help improve the behavior of children who otherwise might need more intensive special education assistance such as special education instructional programs. Psychological intervention is an essential part of a comprehensive system of services for children who are handicapped in obtaining an education.

The seven psychologists who contributed to this publication are applauded for their willingness to share their experiences and aid other professionals who may be working with children who might also respond to these procedures.

Jeff Grimes
Consultant for School Psychological Services
March, 1977

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DESENSITIZATION: AN APPROACH TO THE ELIMINATION OF PHOBIC BEHAVIOR

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Abstract

This article describes how a desensitization process helped reduce the anxiety of a 17 year-old girl so that she could go back to school after she had been absent for several months following a severe emotional problem.

February, 1977

DESENSITIZATION: AN APPROACH TO THE ELIMINATION OF PHOBIC BEHAVIOR

Introduction

Behavioral techniques have been shown in some cases to be an effective and efficient alternative when compared to traditional psychiatric methods. Desensitization is a process of reducing the intensity of reactions to traumatic experiences by repeatedly exposing the person to them in a hierarchical form. Therefore, I felt this would be a good technique to use with a girl who had a type of phobic reaction.

Method

This was a 17 year-old girl who had been diagnosed as schizophrenic by a psychiatrist. She (I shall call her Barb for the purpose of this article) had been under the doctor's care and out of school for three to four months previous to the time I came in contact with her late in March. The guidance counselor mentioned her to me because he knew she had been out of school and thought it a long time for her to be absent. I contacted the psychiatrist, who confirmed the diagnosis of schizophrenia. The doctor indicated she was improved, but that now the girl was having paranoia symptoms and expressed fear of going to school because she felt people would be watching her. Barb had attempted to go back to school less than a month previous to my involvement, but had not been successful at staying for even a day. The doctor felt she would never go back to school and that a G.E.D. or vocational rehabilitation services were the only alternatives open to Barb. The doctor did agree, however, that I could try to get her back to school.

A desensitization procedure was used to reduce the girl's level of fear so that she could attend school. First, rapport with Barb had to be established.

Her confidence was gained when she found I was not going to force her to go to school, but that it was the goal we would work toward. We made up a hierarchical list of items from relatively non-threatening (thinking about getting ready for school) to very anxiety producing situations (being at school all day). We also drew up lists of teachers and school subjects in order of most liked to least liked. It happened that the most liked teacher taught the most liked class.

Barb had one especially close friend that continued to see her while she was not in school. I contacted her friend, who I will call Mary, and asked her if she would help Barb come back to school by going to school with her, and by sitting next to her in class.

Results

After several visits to the home, having Barb think or do the less threatening items on the list, it was felt she was ready to go back to school for one hour per day. Mary and I drove to Barb's house and picked her up and drove back to school. Barb was successful at going one hour per day for one week and then the time was extended to two hours. Within another week the guidance counselor and Mary would go out and bring Barb to school for three hours or approximately one-half day. Within less than a month from the time the treatment was started, Barb was driving herself to school for over half a day for the rest of the year. During the summer she was on the high school girls baseball team. This fall Barb went to school all day. She presently still requires some counseling and a somewhat adjusted curriculum, but she is in her hometown high school and will probably graduate with the rest of her class.

Discussion

The results demonstrate the strength of the behavioral technique of desensitization. Several factors were probably important to the quick success that was obtained. Barb previously liked school and had many friends before she became ill. At least one friend was concerned enough to help and support

Barb. This seemed to be an important factor especially the first few times Barb came back to school, because there were a couple of days when Barb didn't make it to school when Mary wan't able to go along to get her. Also Barb liked the class and the teacher when she initially started for one hour per day. Lastly, I feel it was important that Barb knew she wouldn't be forced or asked to do something she wasn't capable of doing, but that there would be people to help her do what we knew she could do.

A couple of precautions that may not be readily obvious in this type of procedure should be pointed out. People who were not familiar with the procedures were initially asking Barb to do too much too quickly and were setting her up for failure. Also when setbacks occured these same people were ready to give up. When trying this kind of procedure I would suggest informing the necessary school personnel about the procedure, your goal, and possible plateaus or setbacks on the way to your objective.

In summary, this is a procedure that can be useful in certain cases where traditional psychiatric methods do not appear to be as efficient, and where interested people help another to learn and support certain behaviors.

REDUCTION OF CLASSROOM NOISE WITH A DRL REINFORCEMENT SCHEDULE

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Abstract

By rewarding an entire class with candy for reducing the daily number of reminders to be quiet, classroom noise was reduced to a more acceptable level.

February, 1977

Reduction of Classroom Noise with a DRL Reinforcement Schedule

Introduction: The differential reinforcement of lower rates (DRL) schedule has been shown to be effective in reducing undesirable behavior to more acceptable levels (Barrish, Saunders, & Wold, 1969; Deitz & Repp, 1973; Harris & Sherman, 1973). In brief, the DRL method described by Dietz and Repp (1973) provided reinforcement after a given period of time, provided that the observed behavior had occured at or below a predetermined level. The DRL schedule was chosen for this case study because it provided an easily managed technique for shaping the behavior of an entire class.

Method:

A. Subjects included the sixth grade class at a rural attendance center. This was not described as a group of "problem" children. In fact, the teacher described this class as an enthusiastic one. Enthusiastic to the point that discussions were interrupted by one student after another trying to out shout all of the others--to present a new idea.

B. The problem was identifed by the class as a whole in a Glasser-type circle meeting. The students reported that everyone tended to talk at once, making discussion impossible. Students and teachers alike could rarely hear due to the noise level. The disruptions were not mischievous, however, but more the product of unbridaled energy and the desire to be publically-recognized.

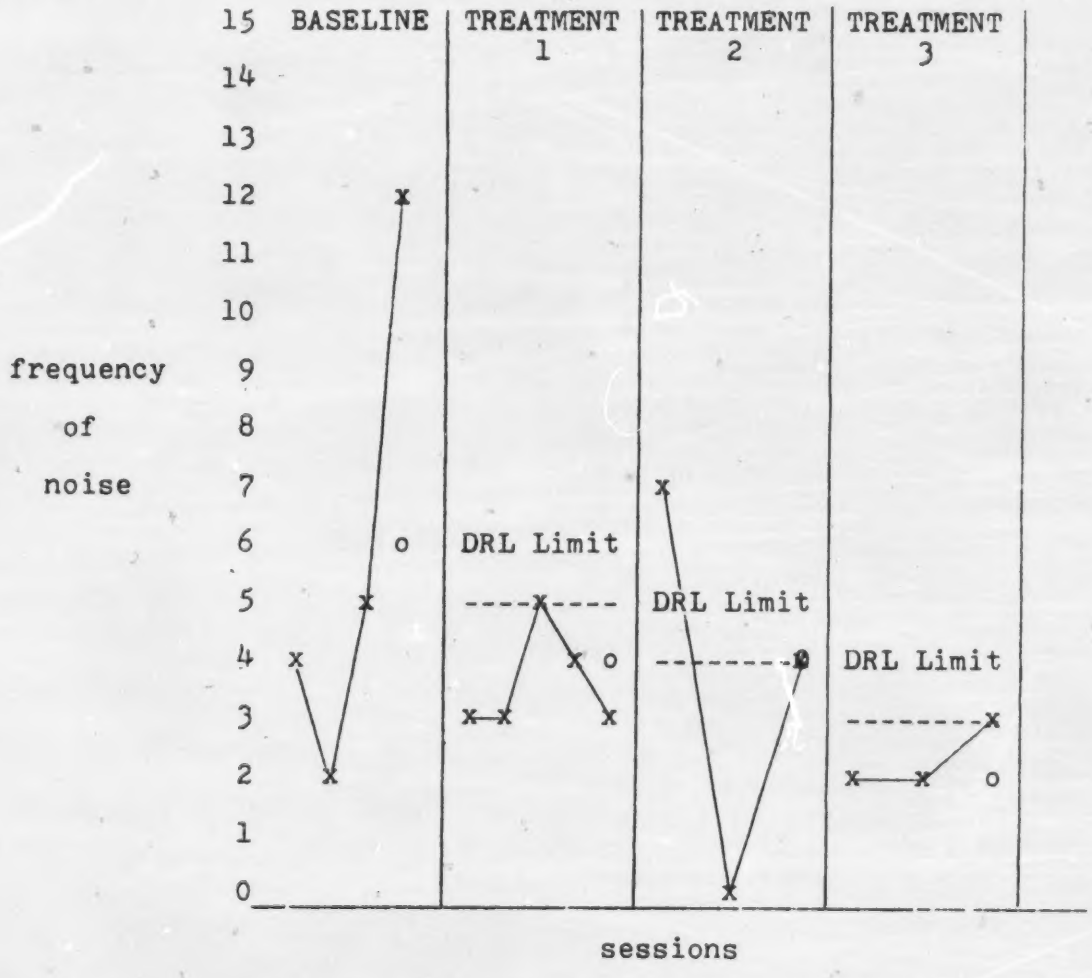
"Unacceptable noise" was defined as more than one student talking at once beyond two reminders to be quiet, during periods of study or discussion which required a minimal noise level. The teacher was the judge of unacceptable noise at all times.

C. During the Glasser meetings, the students devised several plans to deal with the problem. Reminders to keep quiet were taped to each desk corner. A class motto "Everyone has the right to learn" was adopted. The motto served to remind each student that any act which did not help another student learn violated that right to learn. Group discussion of the motto focused on a basic strategy for self-evaluation of behavior. Students were to ask themselves if what they were doing would help another student learn. If the answer to that question was no, each individual was to stop or move to another place where their actions would not disturb others.

A baseline period of four days followed, in which the teacher recorded the frequency of unacceptable noise by making a tally in the upper-left corner of the blackboard. Following the baseline period, another circle meeting was held and the average daily tally (rounded) was computed. The students were then informed that they would receive candy contingent upon a lowering of the average daily tally by one full point for the week. This amounted to a reduction of one reminder per day. The DRL limit was lowered by one per week until an acceptable level was reached. The acceptable level was determined by the classroom teacher to be two tallies per day or less.

Results: Results are summarized in Table 1. Due to disruptions in the school week typical of the holiday season, not all school weeks totalled five days. Problems in following the program were ironed out in weekly Glasser meetings, with students providing thier own solutions when possible. Frequently, students were advised to take responsibility for their own behavior and to help classmates who forgot the rules. The procedure reduced unacceptable noise to a more acceptable level within a reasonable period of time.

Table 1



NOTE.--Reinforcement given for a rounded average equal to the DRL Limit value or less.

o = rounded average for that recording period.

Discussion: Implementing this strategy may produce a few problems similar to the ones encountered in this case study. There may be a tendency on the part of the teacher to change standards for unacceptable noise, becoming more strict on a relatively noisy day and more lenient as progress is observed over a period of weeks. With reduced levels of noise, there are fewer opportunities for the teacher to record behavior, and less reinforcement for the teacher to do so. Occasional forgetting to tally may occur. Additionally, the blackboard may be too far away for a tally to be feasible at all times.

To make record-keeping easier, the teacher was instructed to mark tallies on a 3x5 card carried with her as she moved about the room. This less public form of recording placed a greater responsibility for self-monitoring on the children. With this change in procedure, tallies zoomed to 13 on the first day of the new system. Apparently, the movement of the teacher's hand towards the tally portion of the board had become a powerful signal.

Since some students were cooperating perfectly, yet did not receive a reinforcement due to the outbursts of others, an additional change was made. Tallies are now kept according to reading groups. The students' desks are clustered according to reading level, which makes this type of recording easy. Any group which earns two or fewer tallies per day on the average will be reinforced at the end of the week. This provides for a more accurate distribution of the reinforcement. Data for this adjustment in the system were not available at the time of this writing.

In short, the DRL schedule is an effective, easily managed sytem for lowering unacceptably high levels of responding. The use of circle meetings in conjunction with the behavioral program provided opportunities for modeling group problem-solving, giving additional social reinforcement for correct behavior during group meetings, and suggesting ways in which students could modify the behavior of other students.

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REDUCING SELF-STIMULATORY BEHAVIOR BY INCREASING TASK BEHAVIOR IN AN ELEMENTARY SCHOOL BOY

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Abstract

A second grade boy was treated for self-stimulatory behavior through a consulting approach. The classroom teacher decreased disruptives by re-direction and reinforcement of appropriate on-task behavior.

February, 1977

Introduction:

Many children are referred for which the special education referral and staffing procedures are unnecessary. A cascade of services approach should allow for teacher consultation as a legitimate technique for solving behavior problems of school children. Basic principles of learning and child management may be applied by teachers and parents following several brief consultations with the School Psychologist. Results sufficient to reinforce the teacher for making the referral might often require much less professional time and effort than a thorough psychometric evaluation. Avoidance of labeling and stigmatizing the child is a positive side benefit.

Method

A. Ted was a seven year-old in second grade at the time of referral. He was referred by the classroom teacher on 12-11-75 for rocking and other self-stimulatory behavior, including humming, and out-of-seat. He was observed briefly on 12-11-75, and was serious and intense while coloring. On 12-18-75 Ted was observed for 10 second intervals in the classroom. Of seven intervals, he was observed to rock during five. The third interval was followed by two minutes of out-of-seat. At one point, he was observed to rock continuously for over one minute, all the while humming to himself. Other children reinforced the rocking by standing next to Ted. Occasionally, he stopped rocking to write rapidly. When he became aware of my observation he slowed down but did not smile.

B. Ted referred to the rocking as "jiggling". This consisted of bouncing up and down rapidly while kicking his legs in front of his desk. When asked by his teacher about his behavior, he stated "I have to do it!".

C. Following Christmas vacation, the teacher formally referred Ted to the Pupil Services Team. A staffing was set for 1-29-76, and during the interim

the rocking behavior remained at a high level. Many hypotheses about etiology and diagnoses were discussed at the staffing. These included obsessive-compulsive tendencies and high anxiety. It was agreed that prior to a thorough diagnostic assessment, a behavior management program would be attempted. It is acknowledged that problems with copying may sometimes fall under the rubric of learning disabilities, but Ted was never formally or informally referred to the L.D. Teacher. Although parent anxiety was high at the time of the referral, upon receiving positive reports from the teacher, they did not again request formal evaluation.

An informal behavior management program was set up with teacher input. Beginning on 1-29-76, the teacher was asked to apply some simple, specified procedures for at least two weeks. She was cautioned that premature evaluation of the program might occur before the treatment had a chance to take effect. As a first approximation to applying behavioral techniques, the teacher was asked to merely follow a two step procedure. She was not asked to undertake the additional burden of recording. At approximately five minute intervals, or whenever convenient, the teacher was asked to walk past Ted's desk. If he was rocking, she was to gently restrain him and redirect him to the task at hand. If he was engaged in task behavior descriptive praise, such as "You're really working well and sitting still."

Results

Ted's teacher was contacted briefly each week for a progress report. Subjective judgements of improvement were evident from the first week on. The program was terminated on 3-4-76, following teacher report and observation by the psychologist that the behavior was occurring at a much lower rate. Below is a case entry dated 3-9-76:

> Following consultation with the classroom teacher, Mrs. K., Ted's behavior management program was discontinued. Mrs. K. felt that Ted's self-stimulatory behavior had responded to treatment and was maintained at an acceptably low rate.

Ted was followed by weekly visits to his class throughout the Spring and Fall. On 1-5-77, after one year, his verbal report was "I don't do it any more at all." He even offered to demonstrate the behavior as it occurred in the past, thus suggesting complete self-control of the behavior. He was asked to compose a statement about his behavior, with the following result: "I have not humed and Raocked and bothering peple."

Discussion

The above project was simple to execute and achieved excellent results. It required far less effort than formal evaluation, and had tangible results. A "halo effect" resulted in that other teachers asked for "B Mod" for similar behaviors. Not all teachers were as receptive as Mrs. K., nor were all kids as responsive to treatment as Ted. A case in point is Joey, who in addition to L.D. problems was identified as Multi-Talented. He responded much better to a traditional one-to-one counseling relationship. However, due to time constraints, it is felt that the consulting approach is far more cost effective.

THE USE OF BEHAVIOR MODIFICATION IN ATTEMPTING TO ELICIT VERBALIZATION FROM A ELECTIVELY MUTE CHILD

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Abstract

The writer has attempted to use behavior modification to elicit adaptive verbal responses from an elective mute child. The procedure was not complete at the time of this case study.

February, 1977

Randall Ranes

THE USE OF BEHAVIOR MODIFICATION IN ATTEMPTING TO ELICIT VERBALIZATIONS FROM A ELECTIVELY MUTE CHILD

ABSTRACT: The writer has attempted to use behavior modification to elicit adaptive verbal responses from an elective mute child. The procedure was not complete at the time of this case study.

INTRODUCTION: Behavior modification was chosen due to its effectiveness in shaping and accelerating behavior, its adaptability to the classroom situation for future maintenance purposes and due to the limitations of the client (nonverbal).

METHOD:

A. The subject, Jack, was born on March 26th, 1963. Jack's present chronological age is 13 years, eight months. He was first referred his second year of kindergarten. The first year of kindergarten he was kept home after ten days because it was felt that he was not ready to attend kindergarten. In the second year of kindergarten he was referred to psychological services because he did not want to talk in the school environment and appeared quite immature. The first psychological was done on 8-29-69 and the examiner was unable to obtain a verbal or full scale I.Q. on the WISC. The performance I.Q. on the WISC yielded a score of 53. The examiner was unable to get a verbal response from the subject. At this time he was six years, four months chronologically. Later on in 1969 Jack was seen by the Crippled Children's Field Clinic from Iowa City and the diagnosis was hyperactivity, possible elective mutism, and encopresis. In a follow-up session in March of 1970 the Crippled Children's Field Clinic attempted to administer the Stanford Binet though was unable to get a verbal response. Recommendations were made at this time to consider placement at the educable mentally deficient level. In November of 1970 it was recommended to Jack's parents that they receive a psychiatric evaluation. The report from Northwest Iowa Mental Health Center included a diagnosis of elective mutism with some characteristics of both the autistic and hyperactive child. It was felt that there was at least mildly mental retardation to moderate mental retardation although the psychiatrist was unable to get the subject to communicate with him. It was felt that therapy would not be beneficial at the present time. In 1971 the subject was placed in the primary educable mentally deficient classroom. The teacher described him as being selectively mute and autistic. The subject did not participate in activities at this time nor did he communicate with teacher nor students. A referral was made to the Child's Psychiatric Service, Psychiatric Hospital and Clinic at the University of Iowa in Iowa City in 1973. A remedial diagnostic evaluation was done on the subject and recommendations were made to put the subject on the Monterrey Language Program. Ritalin was suggested as medication for the subject. The subject is still taking Ritalin; approximately 40 milligrams a day. During this evaluation the subject was an inpatient in Iowa City for approximately 10 weeks. The report seemed to imply that Jack was placed

on a behavior modification program with deprivation. This seemed to encourage the subject to emit a verbal response. It was noted in one report that the subject's speech was distorted because he spoke on the intake of breath rather than on the expulsion. The present writer found no follow-up in terms of behavioral recommendations for the homebase community program. Later on in 1973 another evaluation by University of Iowa Speech and Hearing Clinic was done on Jack. The impressions from this evaluation were that direct treatment of the subject's nonverbal behavior through speech therapy would be inappropriate and it was recommended that he be evaluated in the Child's Psychiatry Department in Iowa City. There is no information nor any reports in regards to whether or not this recommendation was followed nor if any treatment of a psychodynamic nature were undertaken. The parents have stated that the psychiatrist told them that there was nothing that he could do of a psychotherapeutic nature due to the subject's nonverbal behavior.

1. PRESENT TEST PERFORMANCE:

The performance test of the Wechsler Intelligence Scale for Children-Revised was administered to the subject in October of 1976. He obtained a performance deviation I.Q. of 64. The Goodenough Harris Draw-A-Person yielded a standard score of 50. The subject was also administered the House-Tree-Person and the Draw-A-Person although they were difficult to interpret projectively due to the low level of functioning and poor visual motor coordination. There were some indications of pathology in the subject's tree from the House-Tree-Person. The subject is presently in a pre-vocational classroom (educably mentally retarded junior high level). He is thirteen years, eight months old. In two observations the writer was unable to see any verbalizations to either the teacher or fellow students. There were no observable responses to the teacher's attempt to use social reinforcement with the subject. The present writer was unable to elicit a verbal response from the subject in a one to one situation although he did come readily with the writer and was generally cooperative in the tasks that were asked of him. He spent much time exploring the room and looking out the window. It appeared more difficult to gain Jack's attention for the initial starting of tasks than maintaining task attentiveness.

B. PROBLEM

The purpose of intervention was to elicit adaptive verbal responses from the subject in the classroom. A minimum behavior would be the use of "Yes" and "No". The writer attempted to breakdown the necessary skills involved in communicating between two individuals. These skills were then put in a language production hierarchy. Both primary (food) and secondary (small toys) were offered as reinforcement. Social reinforcement accompanied all reinforcers.

C. BEHAVIOR MODIFICATION PLAN

I. Language production hierarchy

A. Eye contact

1. Task or goal behavior

a. The subject will maintain eye contact with the therapist.

b. The subject will maintain eye contact during commands.

B. Response to commands, nodding yes and no

1. Task or goal behavior

a. The subject will respond to affirmative questions with vertical nod of the head.

b. The subject will respond to negative questions with a horizonta movement of the head.

C. Response to commands with nodding and the introduction of tape. (At home the subject has spoken and a tape was made of him saying "yes" and "no".)

1. Task or goal behavior

a. The subject will continue to respond to "yes" and "no" questions with the nod of his head while his "yes" and "no" replies are played on a tape player.

D. Response to commands nodding with the inclusion of tapes and with the introduction of lip movements by the subject. (Specific behavioral objectives will be left out from now on to shorten this section.)

E. One syllable words (repeating)

F. Putting two words together

G. Repeating sentences (Procedure does continue, but this is all that was initially planned.)

II. Language generalization procedure (classroom functioning)

A. The subject will repeat sentences with the therapist outside the regular classroom.

B. The subject will repeat sentences in the regular classroom without other students present.

C. The subject will repeat sentences in the regular classroom with students and a physical barrier.

D. The subject will repeat sentences in the regular classroom without a barrier, but facing away from the class.

E. The subject will repeat sentences in the regular classroom facing toward the class.

III. Language generalization procedure (to classroom teacher)

A. The subject will repeat sentences with the therapist in the classroom and no physical barriers.

B. The subject will repeat sentences in the regular classroom with the classroom teacher observing.

C. The subject will repeat sentences with the regular classroom teacher providing the reinforcement.

D. The subject will repeat sentences with the regular classroom teacher doing the sentence stating.

RESULTS:

At the beginning of the intervention the subject would not make eye contact. He would follow commands if they did not involve verbalizations. At the writing of of this article the psychologist has not worked his way through the language production hierarchy. Presently Jack is responding to "yes" and "no" questions with appropriate lip movements. The behaviors of eye contact, response to questions with nodding "yes" and "no", response to commands with the use of taped verbalizations, and the behavior of responding with lip movements are sufficiently strong. The subject chose to stay with primary reinforcers until the seventh session. He then chose to move to small toys and trinkets. Poker chips are used as tokens and an arbituary amount of tokens are necessary for the subject to receive the toy or trinket that he picks out. There has been generalization of the skills mentioned above to the classroom environment.

DISCUSSION:

It is felt by the present psychologist that the behavior modification procedure will be effective. There has been some difficulty in arranging a time to see the subject on a regular basis, although Arrowhead Area Education Agency V has allowed the writer time during each week with which to see the subject. Once minimal verbal behaviors are sufficiently strong the classroom teacher will be trained to maintain the verbal responsiveness in the classroom environment. It is felt by the writer that no other theoretical orientation could produce the results so far gained with Jack. It would be possible for a subject to "skip" through some of the behavioral objectives even though the writer attempted to place them on a skill hierarchy. Further breakdown of the procedures may be necessary.

THE USE OF TAPES AND TEXTBOOKS TOGETHER

FOR NON-READERS IN HIGH SCHOOL

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Abstract

Tapes for Textbooks were obtained from "Recordings for the Blind" for a sophmore student in the Resource Room.

February, 1977

Everett N. Schrader

The Use of Tapes and Textbooks Together for Non-readers in High School

INTRODUCTION

The author has long been interested in reading and the importance of reading as a tool in the education of a child. We have disagreed with the literal interpretation of the "Right-to-Read" program as saying that every student "can-and-shall-be" taught to read. We feel that there are students who have such difficulty in learning to read that the amount of money-time-effort available is insufficient to teach them to read at a level that will enable them to successfully pass high school subjects.

The auditory is important in reading. Our belief is that tapes should accompany each and every book while a student is learning to read, with the student determining the point at which the tapes no longer help. Some will need the tapes all their lives.

BACKGROUND

We will call our student Bob. The school records do not show where Bob went to kindergarten, first or second grade. The records do contain the third, fourth and fifth grade results of the Iowa Tests of Basic Skills and reveal that Bob was in a parochial school in third grade, a different parochial school in fourth grade, and in a public school in fifth grade. Those results are shown in Table I. A study of the table shows that no real growth occurred in either reading or arithmetic between the third and fifth grades.

TABLE I

Iowa Basic Skills

Grade	Vocabulary	Reading Comprehension	Arithmetic Concepts	Arithmetic Problem Solving	Composite Test
3	1.9	2.0	1.8	2.7	1.8
4	1.7	1.4	2.1	2.2	1.8
5	1.6	2.2	2.0	2.7	2.2

Above figures show grade levels.

A Durrell Analysis of Reading Difficulty was done in September, 1971. This was at the beginning of Bob's fifth grade year. Oral reading was listed as being near the middle of grade one with silent reading at the middle of grade two. Listening comprehension was listed at grade five level! Word analysis ability was inadequate with low sight-vocabulary. The evaluator remarked that Bob seemed to have learned words by sight rather than sound. Spelling was below second grade level, but writing was neatly done. The Durrell results were accompained by a report, dated January, 1972, showing the Readers Digest Skills Builders, Science Readers, Science filmstrips, Original Stories, Basic sight-word filmstrips, Words and Phrases filmstrips, Library books, and SRA materials had all been used in working with Bob and his reading problems. The report stated that Bob gave indication that he wanted to read but that he could not transfer printed material into written material very well, that he did not see the whole word when reading a phrase or sentence, and that he could say words in isolation but not in a sentence.

Bob was referred to a school psychologist and evaluated in March of 72, shortly after the fifth grade results on the Iowa Tests of Basic Skills were received. The referral read, "Unable to evaluate his reading problems.

He can read basic sight words in isolation quite well -- but in a phrase or sentence he does not identify them. Loses place often while reading, does not start with sentence beginning." The referral also noted that Bob had repeated first grade, had achieved an IQ of 74 on the California Test of Mental Maturity in the fourth grade, was one of ten children, and had been tested by a psychologist in 1966. (We were unable to obtain the results of the 1966 evaluation.)

The psychologist saw Bob as a medium to tall boy almost twelve years old. Bob was very responsive to the testing and especially enjoyed the puzzle items. The WISC showed Bob with an 86 Verbal IQ, a Performance IQ of 94 with a Full Scale IQ of 89. The achievement levels in readng and math were below the levels expected for the IQ levels on the WISC. The psychologist held a parent conference and urged the parents to take Bob to a Field Clinic for further evaluation of the boy's visual problems. The psychologist felt the IQ's obtained on the WISC to be minimal.

Bob was again evaluated in October of 1974 because a resource room program had been set up and the personnel concerned felt Bob should be considered. The school psychologist mentioned above re-evaluated Bob and this time the WISC IQ's were 86 on Verbal, 99 on Performance and 91 on Full Scale. Reading grade level on the Wide Range Achievement Test was 2.7. This represents a gain of only 4 months from 5th to 8th grade. The psychologist recommended the resource program and counseling by the school counselor. A staffing was held and Bob was placed in the resource room program. The staffing report stated: "Bob demonstrates that he has an extensive awareness of his environment. Test results in science are very low. In math and language arts Bob does not have the basic skills

required to handle the material. In social studies he can pass the tests if they are read to him. He is not able to read the material in social studies or his other classes."

At the end of the school year another staffing was held and stated, "Bob does have excellent peer relationships. Academic tasks are very difficult for this student. The resource room teacher notes that Bob does not enjoy coming to the resource room. Minimal progress has been made." The recommendation was for Bob to stay in the program.

DESCRIPTION OF PROBLEM

At this point Bob had now completed the eighth grade and was unable to read the material in any of his subjects. We do not know what extra help he received in grades one through four, but we do know that from grade five on he had had much extra help with reading, especially from the Title I reading teacher and the resource room teacher.

DESCRIPTION OF SPECIFIC TREATMENT STRATEGIES

At the beginning of the 1975-76 school year the present psychologist and the resource room teacher decided to take a different approach to Bob's problems in school. A request was made to "Recordings for the Blind" for tapes of Bob's textbook in Civics. The tapes, when received, were 5" reel-to-reel and recorded at 1 7/8, an unusually slow speed. Happily the school had an old recorder that would play the tapes. It was also arranged with the classroom teacher for the resource room teacher to read the Civics tests to Bob. Bob was to listen to the taped lessons as he followed word-for-word in the text.

Bob tried and tasted success. He began spending an hour a day in the resource room listening to the tapes and by the end of the year his grade in Civics was a "high C". The resource room teacher commented that

The "C" was probably the highest grade Bob had ever had. Toward the end of the year the resource room teacher taped many of the lessons from the 5" reel over on to cassettes so that Bob might take a small recorder and cassette home overnight.

The 1976-77 school year started with Bob having a tape of each of his textbooks. A re-evaluation was also scheduled for Bob but the author decided that perhaps Bob's reactions to a resource room program and the tapes were of more importance. The results of that interview were revealing.

Bob is now a sophomore in high school. He is approximately 6 feet tall and weighs 160 lbs. He played tackle on the sophomore team and has played some on the varsity squad. He is a friendly young man and portrayed social self-confidence in the interview. Asked if he felt that he had bwen labeled or set aside from his peers by use of the tapes, Bob said he hadn't; that in fact there were others in his classes that could benefit by using the tapes. He added that he sometimes took one or two others with him when he went to the resource room to listen to a tape.

When asked how he used the tapes Bob said that he follows word-by-word in the text as he listens to the tape. At the end of the lesson he shuts off the recorder and goes back over the lesson. If there are questions he has to answer, Bob says he can find the place and get the answer figured out without playing the tape again. This was quite surprising in view of the fact that his sight-vocabulary had just been measured at a 3.2 grade level on the Wide Range Achievement Test.

When asked about tests Bob was emphatic that all tests should be read to a student using tapes. His method of review for a test depends upon how many pages it covers. If it is a chapter test he may listen to the tape again but if it covers more than a chapter then he uses only his notes,

for listening would take too long. He further qualified his answer by saying that a lot depended on how the teacher taught the course. Asked to clarify the last statement, he answered that some teachers out lined the course and provided most of the notes -- that other teachers provided nothing and merely lectured out of the book.

Bob also had some good ideas about improving the tapes. He would have them on cassettes, not reels, because cassettes are easily carried and most families have a cassette recorder at home. He also suggested that as the person recording the tape turns to the next page that person should read the page number. This would facilitate finding any one page recorded on the tape.

RESULTS

By the end of the eighth grade Bob had had a year in a resource room porgram and many hours of help in remedial reading. After all this help Bob could not read well enough to understand the material in any of his subjects. Further, in math and language arts he also did not have the basic skills required to handle that material.

Now, one and one-half years later, in the middle of his sophomore year, Bob still cannot read well enough. However, through the use of tapes and through his tests being read to him, Bob has tasted success and has developed a real drive to learn. From not liking to go to the resource room he has gone to the point where it is hard to keep him out of it, even after school is out for the day. He is doing book reports, writing them out himself, after listening to the book on tape. He will soon have all the basic facts in math down pat and is working to improve his spelling. Bob can see now a way around the reading problem -- a new way to absorb learning. He is not making all "A's" in school -- probably never will. But that "C" last

year and two or three this semester must be the most wonderful rewards to a boy who previously had tasted only failure.

DISCUSSION

The use of taped textbooks will not be a "cure-all". Just as motivation is hard to generate after years of failure with other methods, so will motivation be difficult to generate when using tapes after years of failure. Perhaps Bob might not have had enough "reserve power" to risk failure on the tapes if he had not been above average and experiencing success in athletic ventures. Bob is now dating a girl; he is also involved in Golden Gloves boxing. He is very popular with his fellow high school students. His social graces have improved greatly. How much of this is due solely to success as an athlete?

The tapes represent the use of a second channel of learning simultaneously with the use of the visual channel. We know that some children learn better through the auditory channel than through the visual. Why not institute taped textbooks as a regular feature of the reading program beginning in the first grade? A few publishers are already out with records or tapes for some of their books, starting at first grade level. Bob expressed his viewpoint well when he said, "There are two or three other students in each of my classes who don't need a resource room but could sure use some help from the tapes because they don't read well enough."

Everett N. Schrader
School Psychologist

CONTRACT SYSTEM TO IMPROVE INCREASE ASSIGNMENTS COMPLETED AND DECREASE FIGHTING BEHAVIOR

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Abstract

This report deals with uses of award systems that can be used in a resource room to stimulate children, and act as a form of self-reinforcement thereby improving work habits.

February, 1977

Brent Thomson

CONTRACT SYSTEM TO IMPROVE INCREASE ASSIGNMENTS COMPLETED AND DECREASE FIGHTING BEHAVIOR

INTRODUCTION

Contract type situations at use within resource rooms has been and is an effective way not only to improve children's motivations to learn, but also to create a new learning experience whereby children are rewarded for completing their "contract," and thereby improving their self-concept and creates a new found interest in school subjects. One of the main reasons I decided to use this is because I had the opportunity to see Phyllis Kaplan speak in Des Moines earlier this year. Her book entitled "It's Positively Fun" deals with contract type systems, award methods, parent-home communicators, and accomplishment sheets. I was very impressed with her presentation, and decided to use some of her creations in my resource rooms. There has been a good response based on this program.

METHOD

A. Richard is a student who is experiencing much anxiety with the curriculum at the present time. This student's background is steeped in success in that all of Richard's relatives are holding down jobs such as a surgeon at the Mayo Clinic, a chef at a prominent New York hotel, and a bank president. Therefore, the family expects that all of the children should be successful.

B. Richard, based on the results of the evaluation was seen as having a considerable amount of anxiety and frustration at the present time. Also, a visual-motor perception problem was seen.

C. It was decided to hold a conference with both of Richard's parents whereby a program outside of the school would take place. This conference pointed

out to Richard's parents the frustration of the curriculum at the present time, and also the frustration of "the family pattern of success." It was suggested that the parents sit down and talk with Richard about school every night and talk about what a good job Richard is doing. Also, this "contract" system gives tangible results in the form of contracts completed and turned back to Richard, which can then be taken home and shown off and also can be the topic of conversation. A conference with Richard's teachers identified Richard's need for social reinforcement, and it was suggested that they reinforce him by saying "good job Richard" when Richard stayed in his seat and attended to task. The main object of this study was to set up a program of remediation in the resource room which would later on be carried out within the regular classroom. This consisted of identifying the types of behaviors or performances that could be or wanted to be changed. It was decided that completion of assignments, and a decrease from a high other weeks of between 5 and 8 fights a week to one time a week fighting with other kids in the resource room. Contracts were written up by the resource room teacher along with Richard's assistance specifying what they together felt that Richard could accomplish within one week (next scheduled visit by Psychologist). Within the contract, Richard and the resource room teacher also agreed on something which if Richard completed the desired objective, could do during the resource room time. This award if the contract was completed consisted of fifteen minutes of reading a Sports Illustrated. At the bottom of the contract the resource room teacher, Richard, and a witness signed their names binding them to the conditions of the contract.

RESULTS

A week later contact with the resource room teacher indicated a significant

increase on the completion of assignments, in that he stayed on tasks on all but his math on the third day. Fighting behavior decreased to no fights for one week as measured by the resource room teacher, and this behavior also carried over to classroom disturbances as well.

DISCUSSION

This contracting can easily be set up for a whole class by using menus of reinorcement which can be placed on the blackboard giving the students a visual identification with which to modify their behavior. This contracting procedure has just been instituted since January 4 of this year and so far we have seen good results. Possible modifications would be to supplement the contract with family counseling thereby helping to alleviate frustration within the family. Also, individual counseling with Richard would also be a possibility. Closer contact with regular classroom teachers through interviewing could also be established. This will be discussed in an inservice session now being planned by myself regarding use of the Kaplan materials in the regular classroom.

A METHOD OF INCREASING AND REDISTRIBUTING PRAISE RATES AND SUPPRESSING NEGATIVE INTERACTIONS OF PRESCHOOL TEACHERS. [1]

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February, 1977

Abstract

Three classroom teachers were required to catch four children being "good" contingent upon each observed negative teacher -- child interaction in a multiple baseline design across classroom activites. Treatment resulted in a notable decrease of negative interactions, an increase in positive interactions and a redistribution of praise about the children.

1 Grateful acknowledgement is given to Mary Ann Powers of Drake University for her support and advice for the project.

INTRODUCTION

Aside from psychometry, one of the skills a school psychologist must have in his repertoire is the ability to analyze classroom contingencies and provide a successful treatment strategy upon receiving referrals from sources concerned with achieving good classroom management. Such treatment strategies frequently involves the systematic application or removal of teacher attention given to children.

Teacher attention has been shown to be a powerful agent for increasing behavior rates of children in many education settings. Hall, Lund and Jackson (1968) for example, increased rates of study behavior by using contingent teachers' attention in the form of verbal and physical contact. Smiling and conversing served as reinforcers for increasing the co-operative play behavior of a preschooler (Hart, Reynolds, Baer, Brawley and Harris, 1968). Schutte and Hopkins (1970) demonstrated that instruction following behavior could be increased by providing contingent teacher attention whenever instruction following behavior was emitted. Other investigations (Madsen, Becker and Thomas, 1968; Hall, Fox, Willard, Goldsmith, Emerson, Owen, Davis and Portia, 1971; Sajwaj, Twardosz and Burke, 1972; Pinkston, Reese, LeBlanc and Baer, 1973; among others) concur with the finding that teacher attention is a powerful reinforcer.

Since behavior is maintained by its consequences, frequently the classroom teacher actually has her behavior changed by the students in the classroom. Consider the following situation. A beginning teacher faced with the burdens of the real world in addition to the new problems to be found in a new educational setting quite often tends to use those techniques which produce change the most rapidly. This immediate reinforcement as opposed to long-term reinforcement, at the time, is viewed as the more powerful of the two procedures. Thus, when the teacher reprimands a student, he or she in effect receives one training trial which consists of getting "paid off" for reprimanding. If a reprimand is followed by the cessation of the disruptive behavior, that person who emitted the reprimand will have a greater probability to reprimand in the future when the disruption occurs again. However, the more difficult long-term procedure of ignoring the disruption and praising whenever the desirable behavior occurs is to be preferred. Even though research has indicated that the elements of successful classroom control are ignoring the inappropriate

behavior while at the same time praising the appropriate behavior (Madsen, et. al., 1968) most beginning teachers tend to rely on reprimands since they have not yet had the chance to observe the long-term effect of praising children whenever the children are appropriate.

For decreasing inappropriate social behavior and increasing appropriate social behavior, Foxx and Azrin (1973) have developed a procedure known as Positive Practice. The Positive Practice procedure is designed to focus on the appropriate behavior when the inappropriate behavior occurs. The goal of Positive Practice is to not only eliminate the inappropriate, but also to give the child an opportunity to immediately practice the correct form of the behavior. Conceptually then, Positive Practice is a procedure which terminates reinforcement of the on-going inappropriate response provides negative reinforcement for the practice of the desired behavior, constitutes a time-out from positive reinforcement in that the on-going inappropriate response was interrupted and provides a re-educative component of the appropriate response in the form of positive practice (Azrin and Wesolowski, 1974).

Since a systematic and high rate of teachers attention for appropriate classroom behavior is desirable, a strategy designed to increase positive teacher/child interaction seems appropriate. Such a strategy becomes even more powerful if, in addition to increasing the rate of positive teacher/child interactions, it could also suppress inappropriate or negative teacher/child interactions. Also, it is commonly observed that a teacher may distribute attention to selected children due to a child being a "favorite" target for praise or criticism. A strategy which may focus on the redistribution of teacher attention about the classroom is to be preferred. Finally, it seems most ethical to apply procedures which are used for changing children's behavior to change teachers' behaviors. Requiring a teacher to engage in a period of Positive Practice whenever she emits an inappropriate response as defined by an outside observer is not only legitimate but highly desirable.

METHOD

Subject and Setting

Three teachers at a local pre-kindergarten served as subjects for the study. The first activity for Classroom A was learning center where the children were allowed to play with various learning materials in addition to receiving a short structural lesson on the senses, seasons, different concepts, such as what

is large, etc. The next activity was free play followed by a short rest period. Next the children received a small snack and the last activity held was an art period where painting, clay and other art work were available. Classroom B and Classroom C held similar activities but in a different sequence.

Observational Procedures and Response Measures

During the study, the observer recorded baseline, treatment and post treatment in the classroom which she was assigned. Observations were made by following the teacher. The observers were instructed to ignore the students when approached and to avoid all interactions with the students as possible.

To record an observation, a simple tally mark was made under the appropriate column denoting the type of teacher interaction for each child. Categories were coded to insure teacher naivity as to the specific response measure recorded. In addition, the observers randomly delayed the recording after an interaction occurred for the purpose of inhibiting the temporal pairing of the recorded response and the emitted behaviors by the teacher. Recording began when the teacher passed through the doorway and entered the activity area or room and terminated when the teacher left the activity area or room, once again passing through the doorway. No interactions were recorded which occurred in the hallways during the transference of students from one activity to the next.

Response Measures

A rate of teacher behavior was measured on two broad categories consisting of positive and negative interactions with individual children and the group of children.

Positive Teacher Interactions

Positive interactions were defined as all vocal emissions from the teacher, directed to a single subject or the group for the purpose of showing approval for a response which was just emitted or was currently being engaged in by the subject or group. Positive interaction examples are:

"That's good"

"My we're all so nice and quiet"

"Oh, those are pretty colors you painted."
"I like the way you are standing so tall."

The words "yes", "thank you", "now" and "right" were not included in this category. In addition, phrases which were merely objective descriptions of

observed responses such as "you are drawing, aren't you?" were not scored.

Negative Teacher Interaction.

Negative interactions were defined as all vocal emissions from the teacher directed to a subject or the group for the purpose of showing disapproval or for the purpose of providing a cessation of a response which was being emitted, and not merely to provide an alternative. Negative interaction examples are:

"No!"

"That's for me, please; not you!"

"Honey, we don't hit our friends."

Included in this category were verbal reprimands for not following the teachers' commands. Examples are:

"You didn't line up, did you?"

"When you're all quiet, we'll continue our story."

Interaction Frequencies.

An interaction, positive or negative, was recorded as having occurred when the vocal emission of approval or disapproval was heard by the observer. The occurrence was defined as having terminated when the teacher being observed left the subject or subjects and attended to another person in the room.

Reliability

Reliability measures were taken by an additional observer in each class at various times during the study. Reliability was computed by dividing the lowest number of interactions by the highest number of Interaction X 100 for each category of observed positive and negative interaction for each activity. Reliability measures averaged 88.44 for 55 positive interaction observations and 86.98 for 59 negative interaction observations.

Treatment

Baseline. During a brief meeting with the teachers, it was explained that a study was commencing which would investigate teacher-student interactions. No specific mention was made as to the actual response measures in question. Data were collected for five days on the frequencies of emitted positive and negative interactions for each teacher during each activity for the three classes.

Cueing

Following baseline, the teachers attended a brief meeting where they were told that in order to obtain further data, teachers would, at various times during the day, be cued by the observer. At this time, they were to "catch four children being good" and individually praise each child for the response being engaged in. Examples were given as to how this may be done, however, the teachers were instructed to use their own words. After praising the fourth child, the teacher was to return to the task she was engaging in or start an activity of her choice. If it was impossible to immediately find four children, due to the nature of the disruption which was responsible for the interaction which initiated the cue, or due to the lack of availability of four children "being good", the teacher was to find four children after the disruption was taken care of or wait until four children became available. No mention was made concerning the reason the cue was to be given, and no further information was given as to the response measures recorded by the observers.

The treatment condition was applied across activities in a multiple baseline design with the exception that (1) no treatment was applied during the last activity for all classes and, (2) a one-day absence of cueing occurred during one activity due to an observer error. Due to teacher absences, the treatment conditions varied in length for each classroom.

Reversal

Immediately following the Treatment I condition, a brief meeting was held. The teachers were told that no further cues were to be given, however, data would still be collected during each activity. After three days of this condition, pre-kindergarten discontinued and the study terminated.

RESULTS

The data displays clearly demonstrates the power of the Treatment Procedure. Figure 1 displays the daily rate of positive and negative teacher interactions per minute for Classroom A during baseline, cueing and reversal. Similar rates are displayed in figures 2 and 3 for Classrooms B and C respectively. Note that for all classrooms where cues were delivered, teacher positive interaction rates dramatically increased. In addition the post-treatment (reversal) condition reveals that praise rates are noticeably higher as compared to baseline conditions. This data is summerized in figure 4 for all classrooms. As can be seen, all teachers dramatically increased their rates of positive interactions.

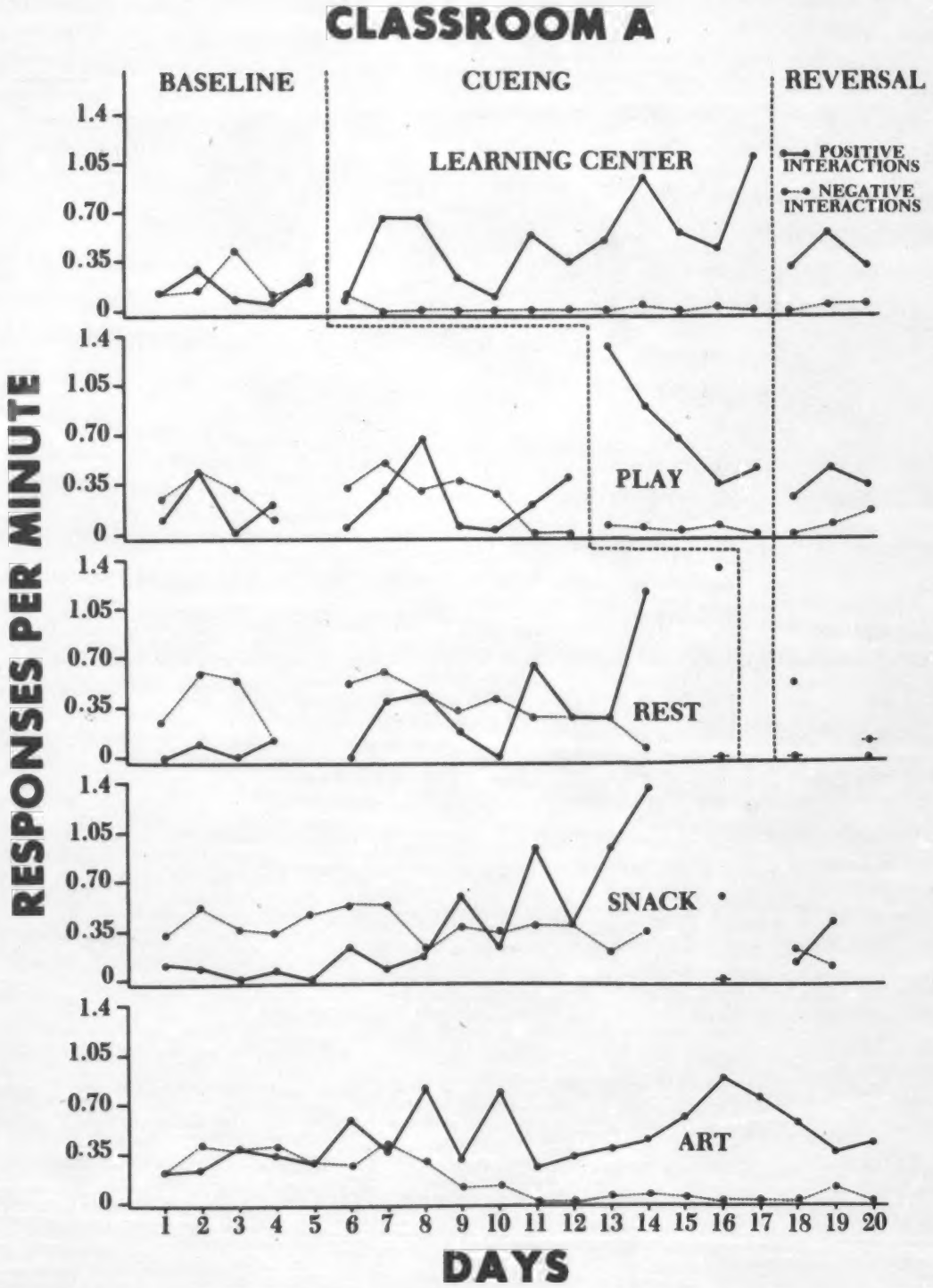

Fig. 1. The Daily Positive and Negative Responses per minute for Classroom A during conditions of Baseline, Cueing and Reversal.

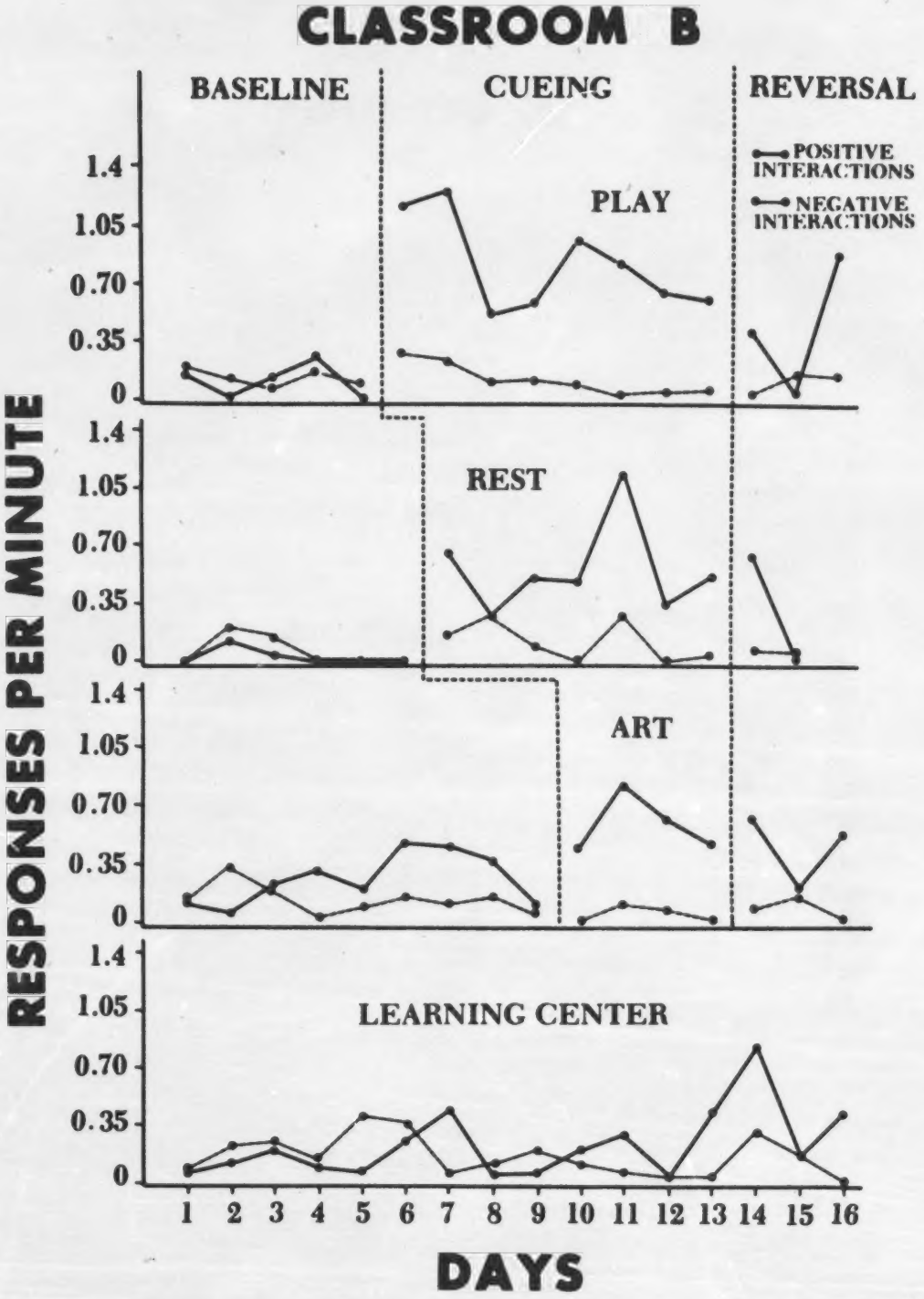

Fig. 2. The Daily Positive and Negative Responses per minute for Classroom B during conditions of Baseline, Cueing and Reversals.

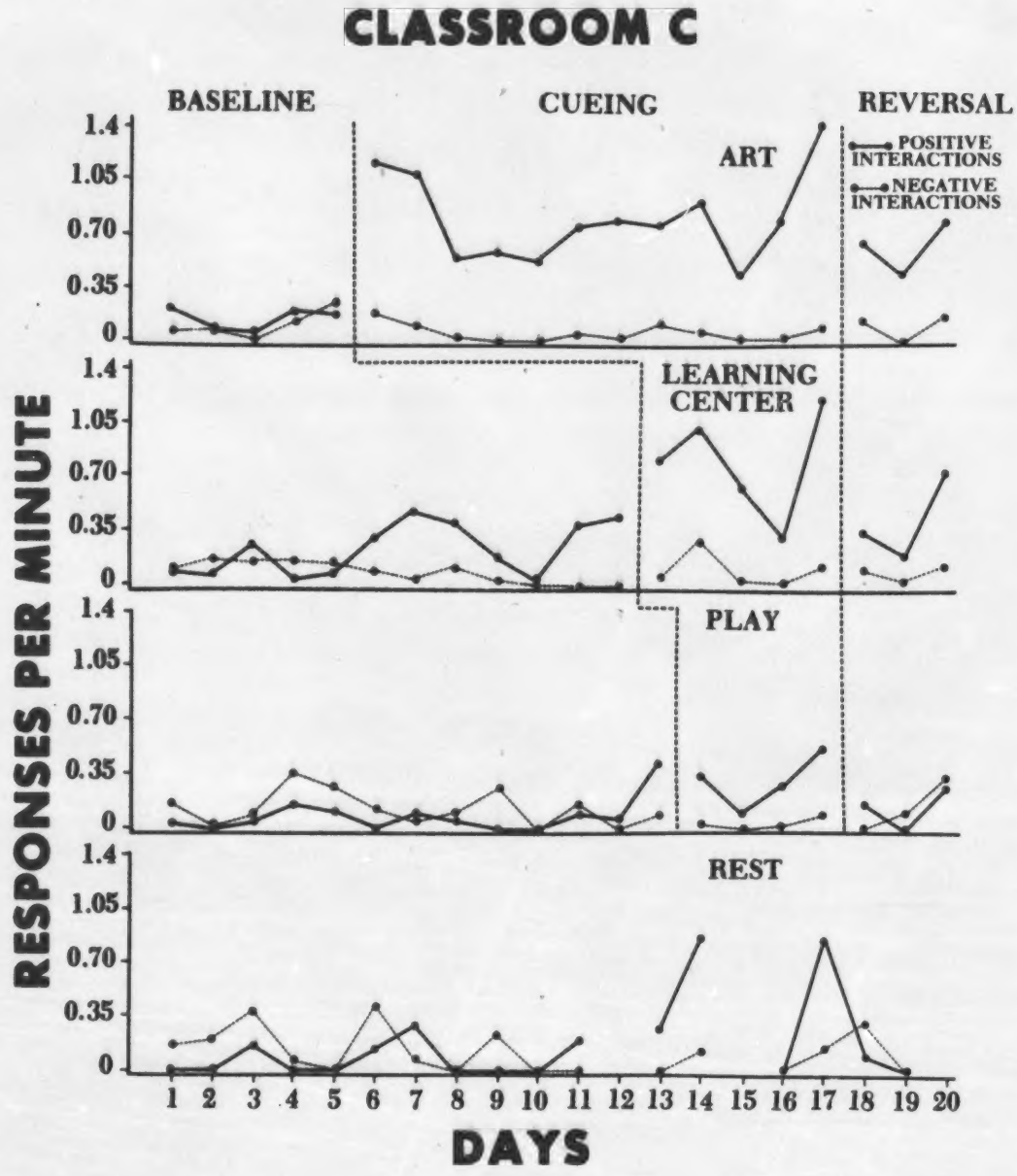

Fig. 3. The Daily Positive and Negative Responses per minute for Classroom C during conditions of Baseline, Cueing and Reversals.

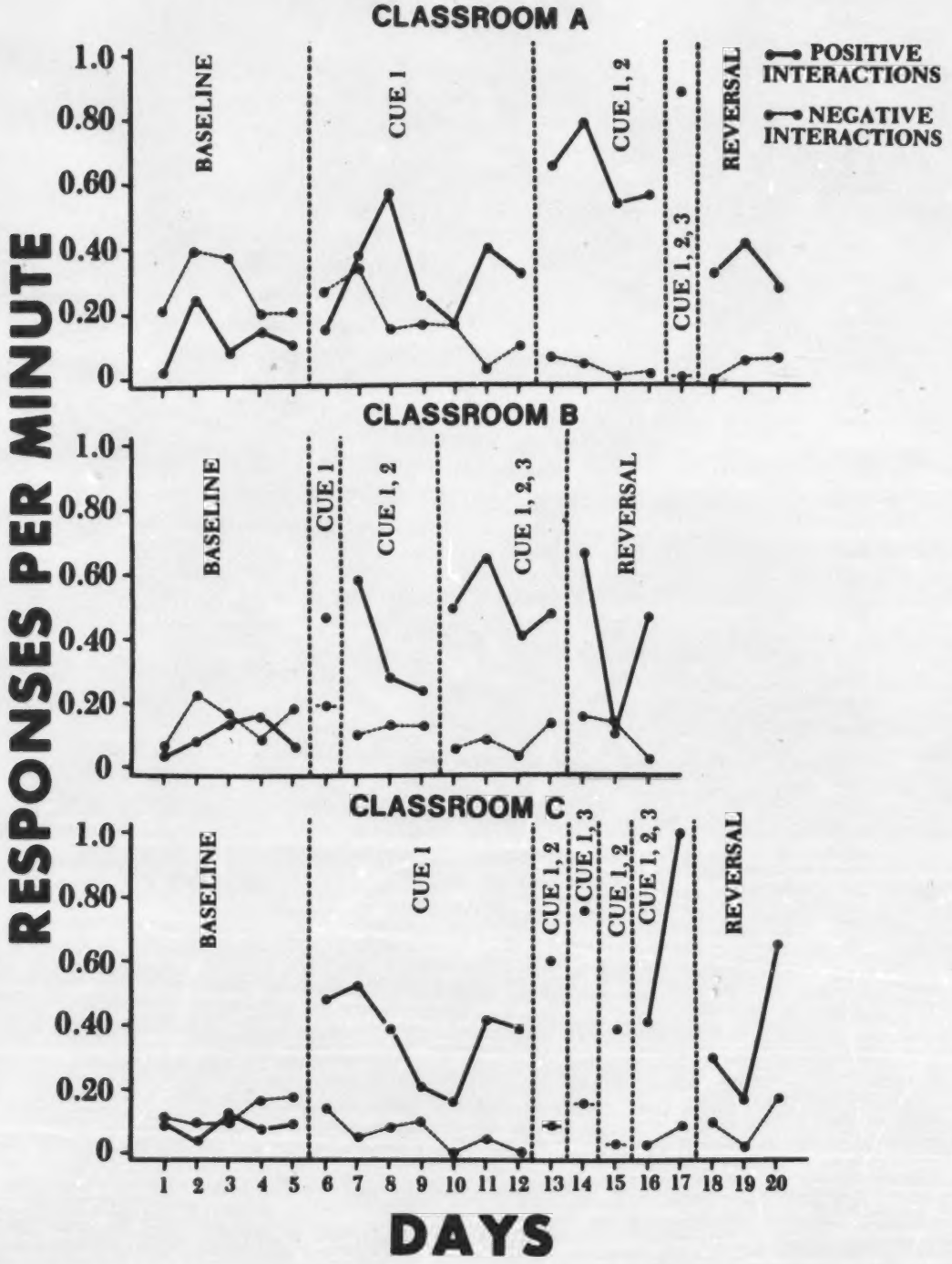

Fig. 4. The Daily Positive and Negative Responses per minute for Classrooms A, B and C respectively during conditions of Baseline, Cueing and Reversal.

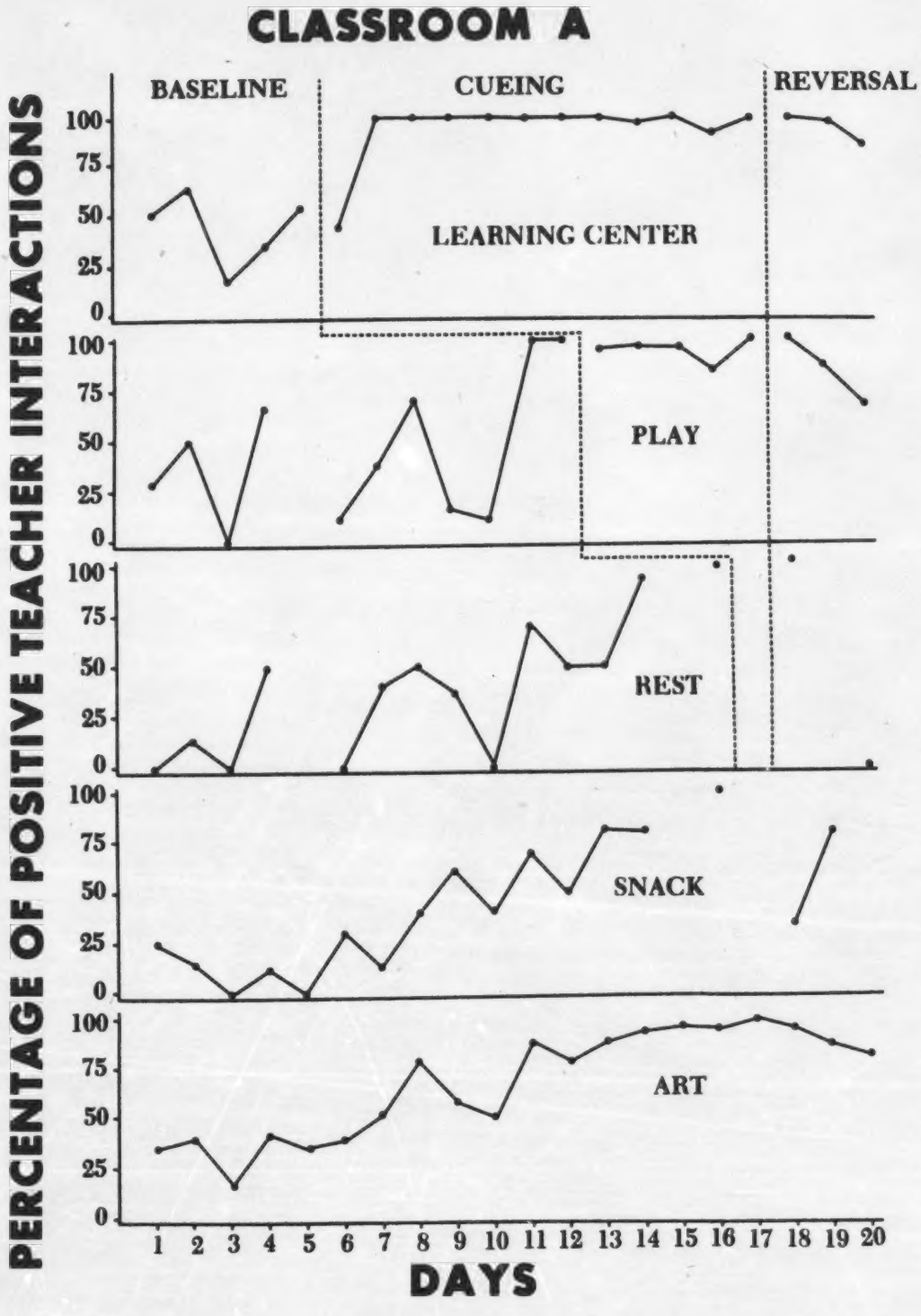

Fig. 5. The daily percentages of positive teachers interaction for Classroom A during conditions of baseline, cueing and reversal.

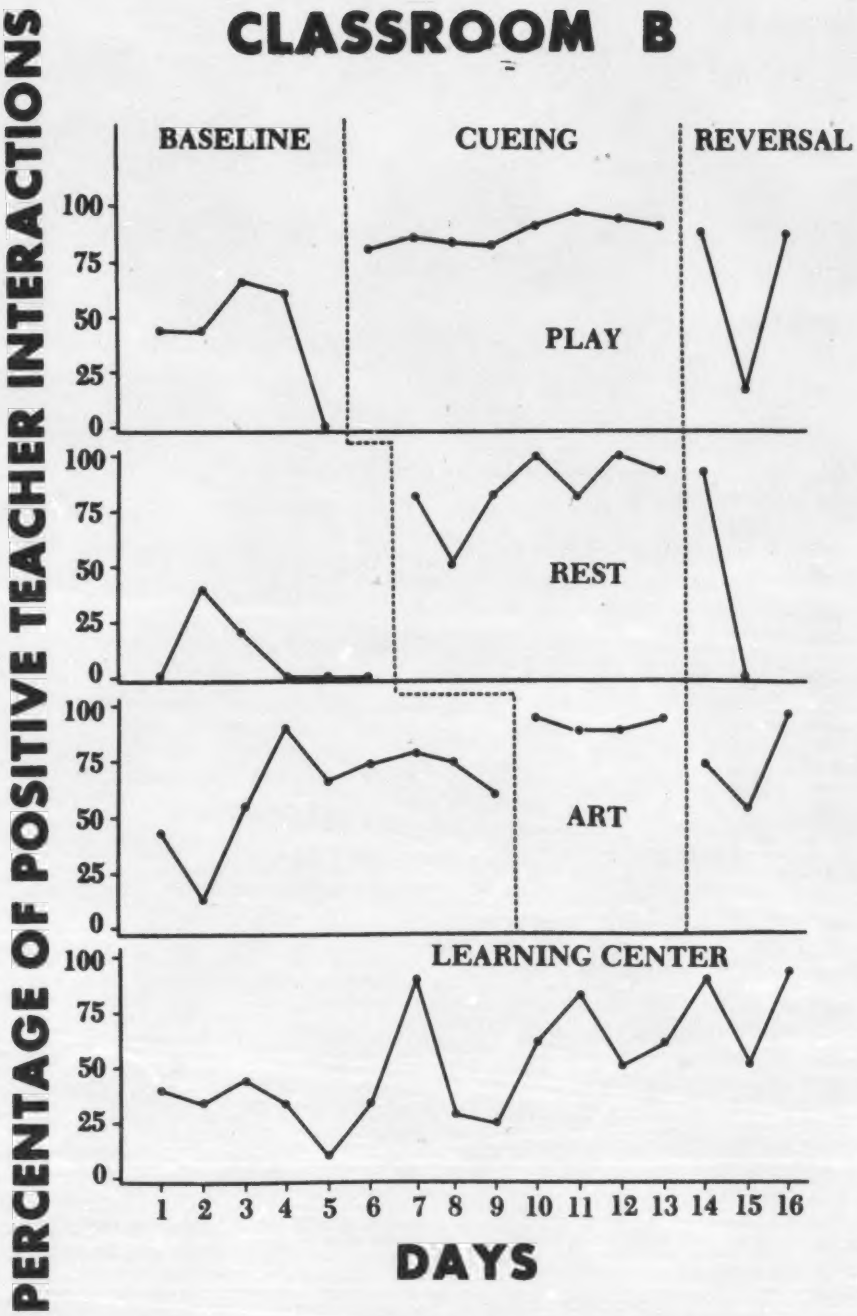

Fig. 6. The daily percentages of positive teachers interaction for Classroom B during conditions of baseline, cueing and reversal.

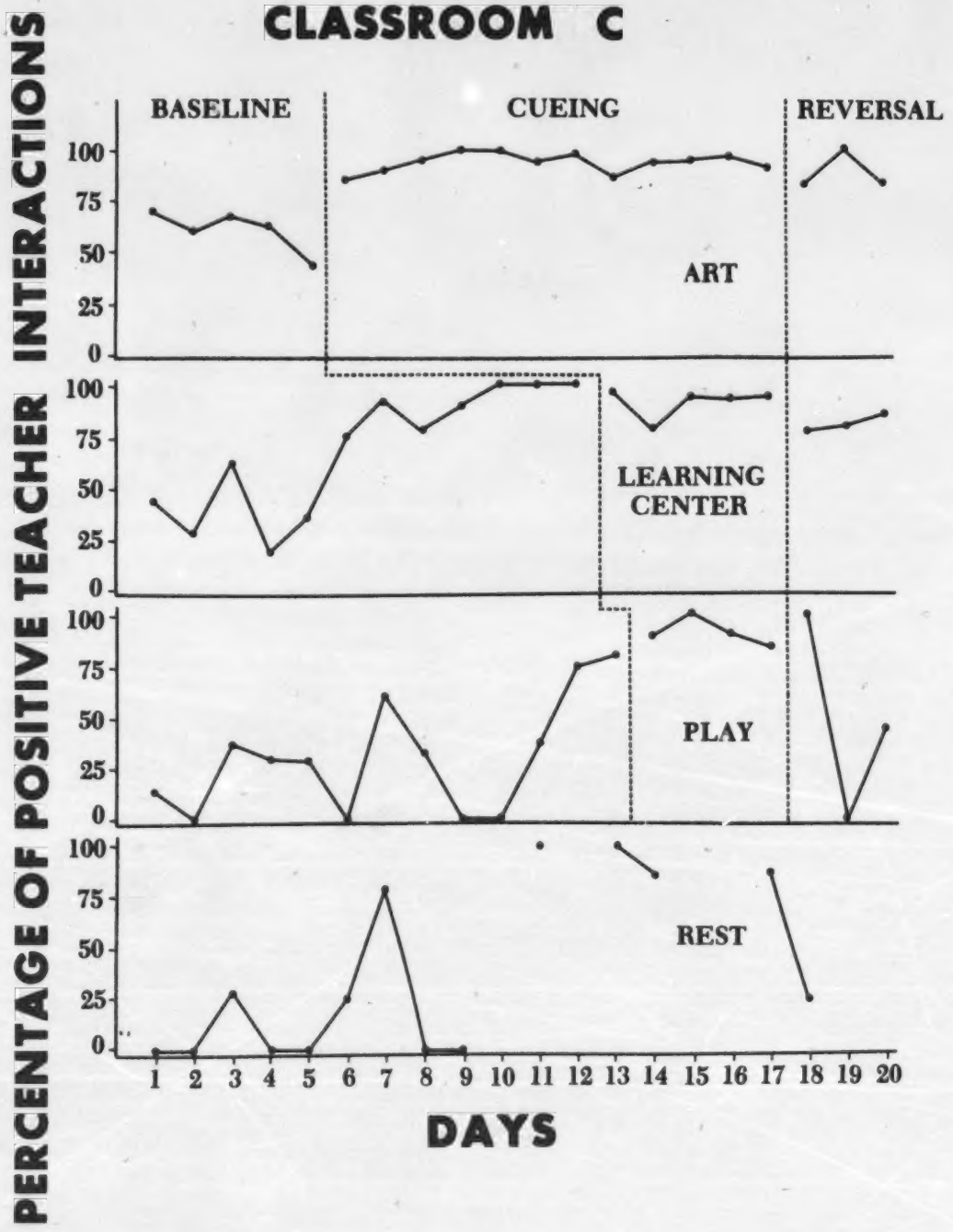

Fig. 7. The daily percentages of positive teachers interaction for Classroom C during conditions of baseline, cueing and reversal.

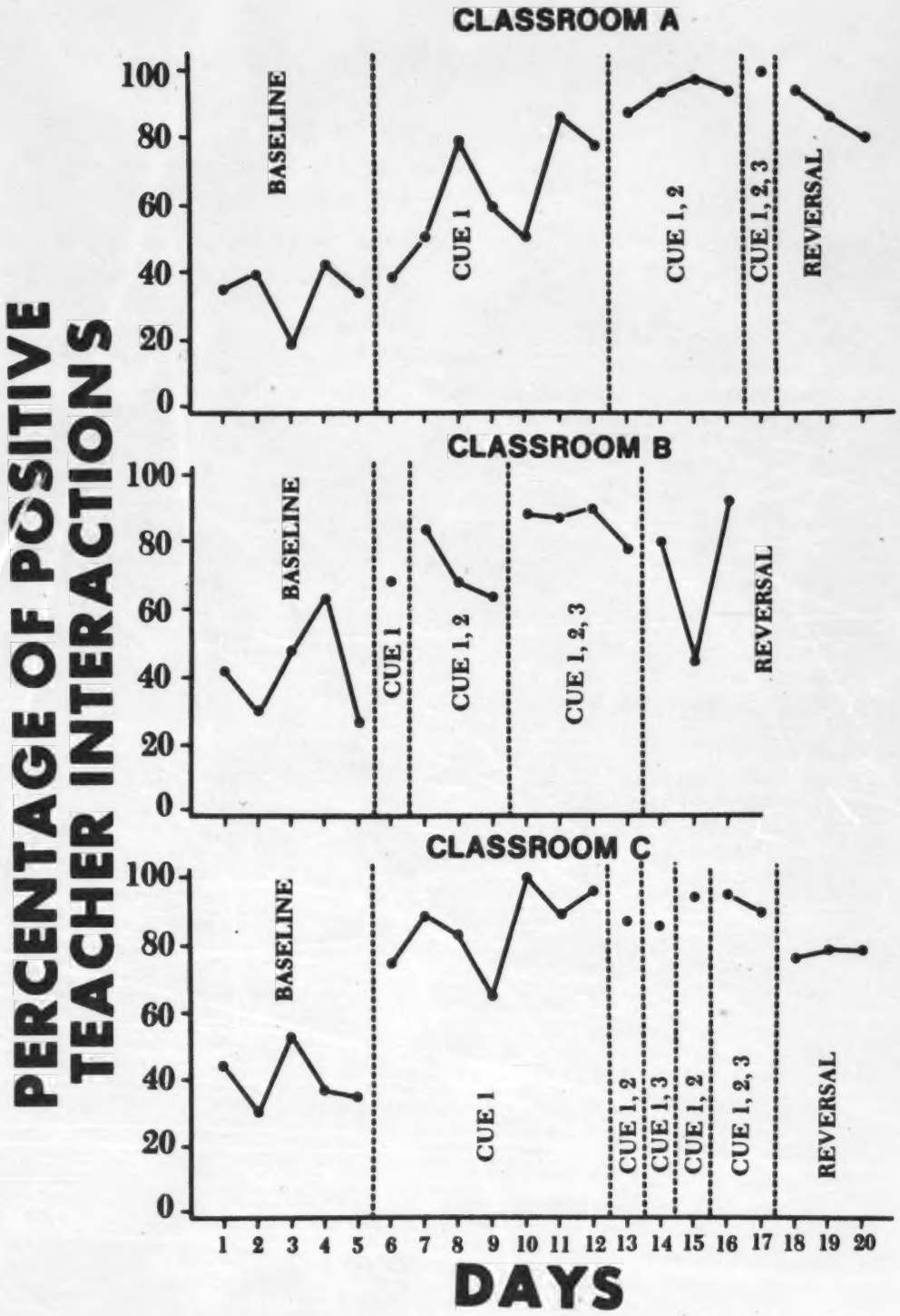

Fig. 8. The daily percentage of positive teachers interactions for Classrooms A, B, and C respectively during conditions of baseline, cueing and reversal.

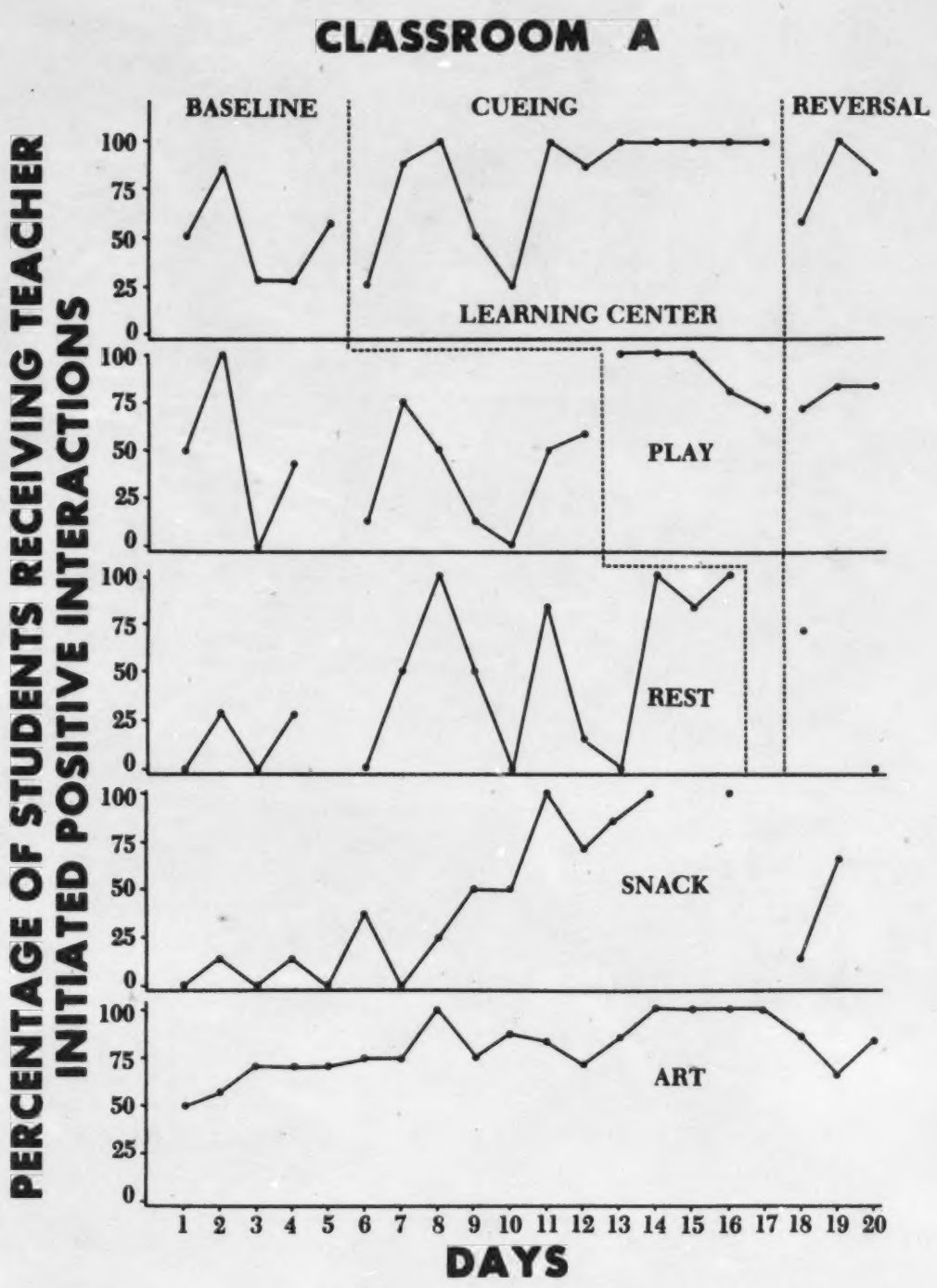

Fig. 9. The daily percentage of students receiving teachers initiated positive interactions for Classroom A during conditions of baseline, cueing, and reversal.

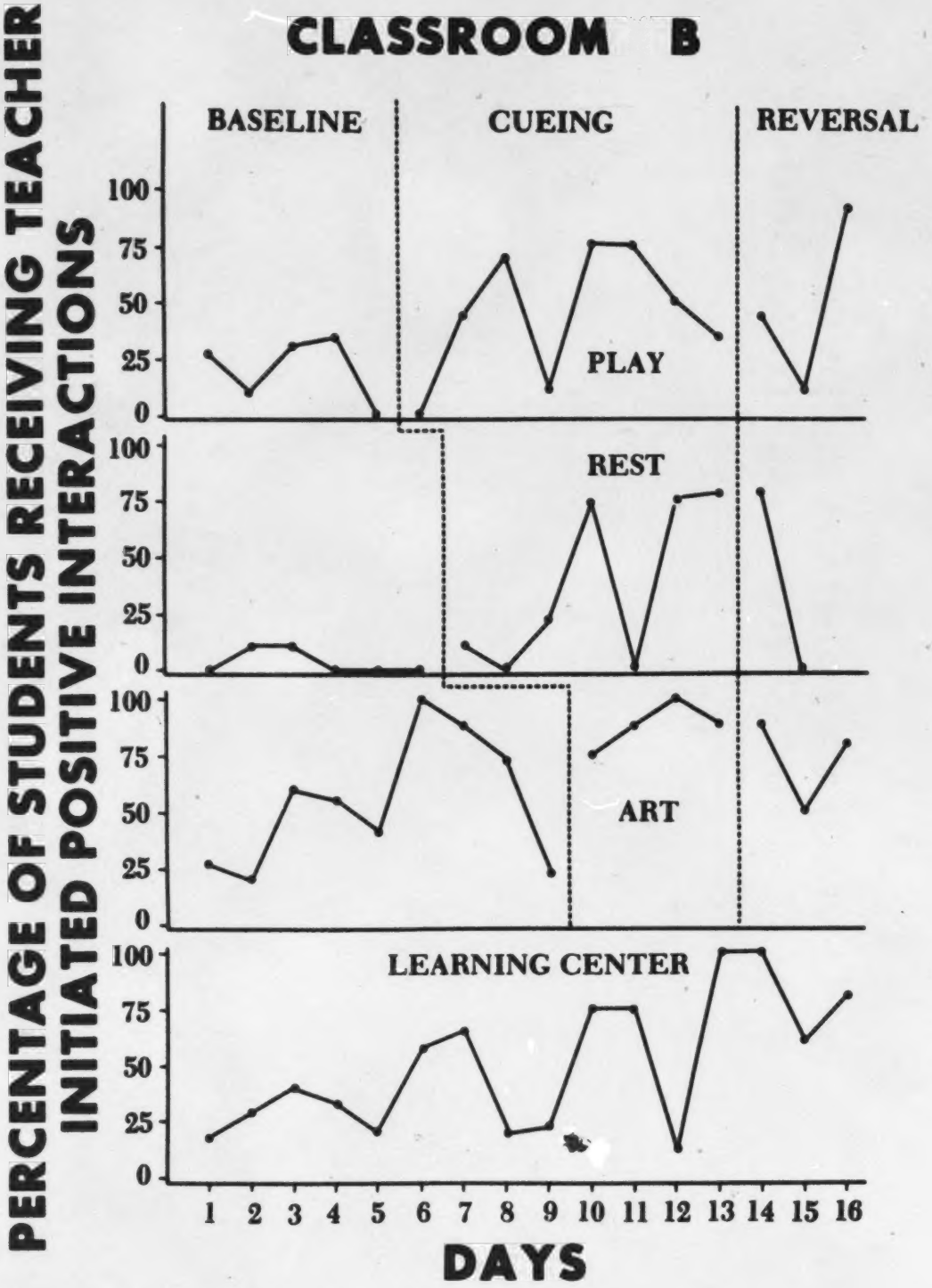

Fig. 10. The daily percentage of students receiving teachers initiated positive interactions for Classroom B during conditions of baseline, cueing and reversal.

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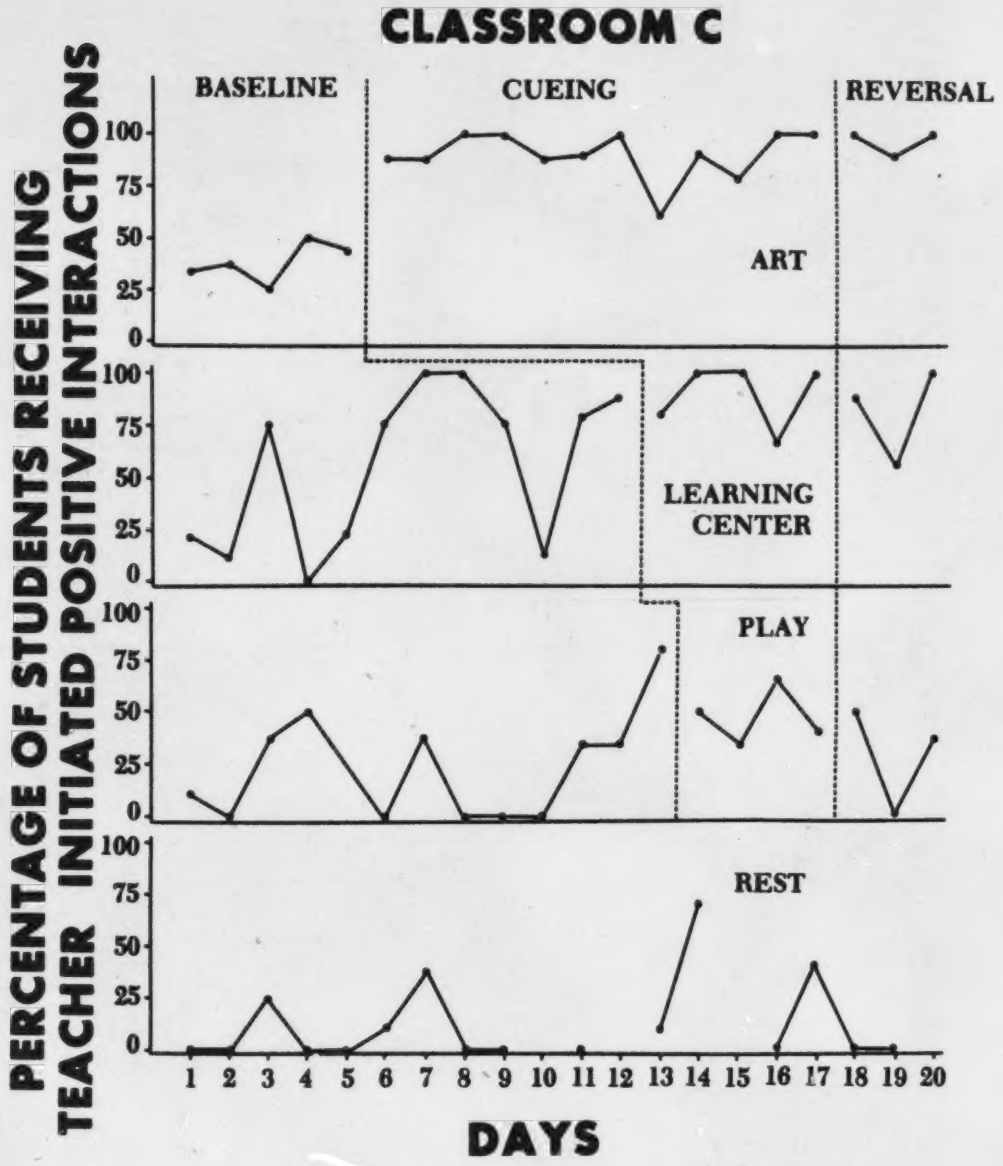

Fig. 11. The daily percentage of students receiving teachers initiated positive interactions for Classroom C during conditions of baseline, cueing, and reversal.

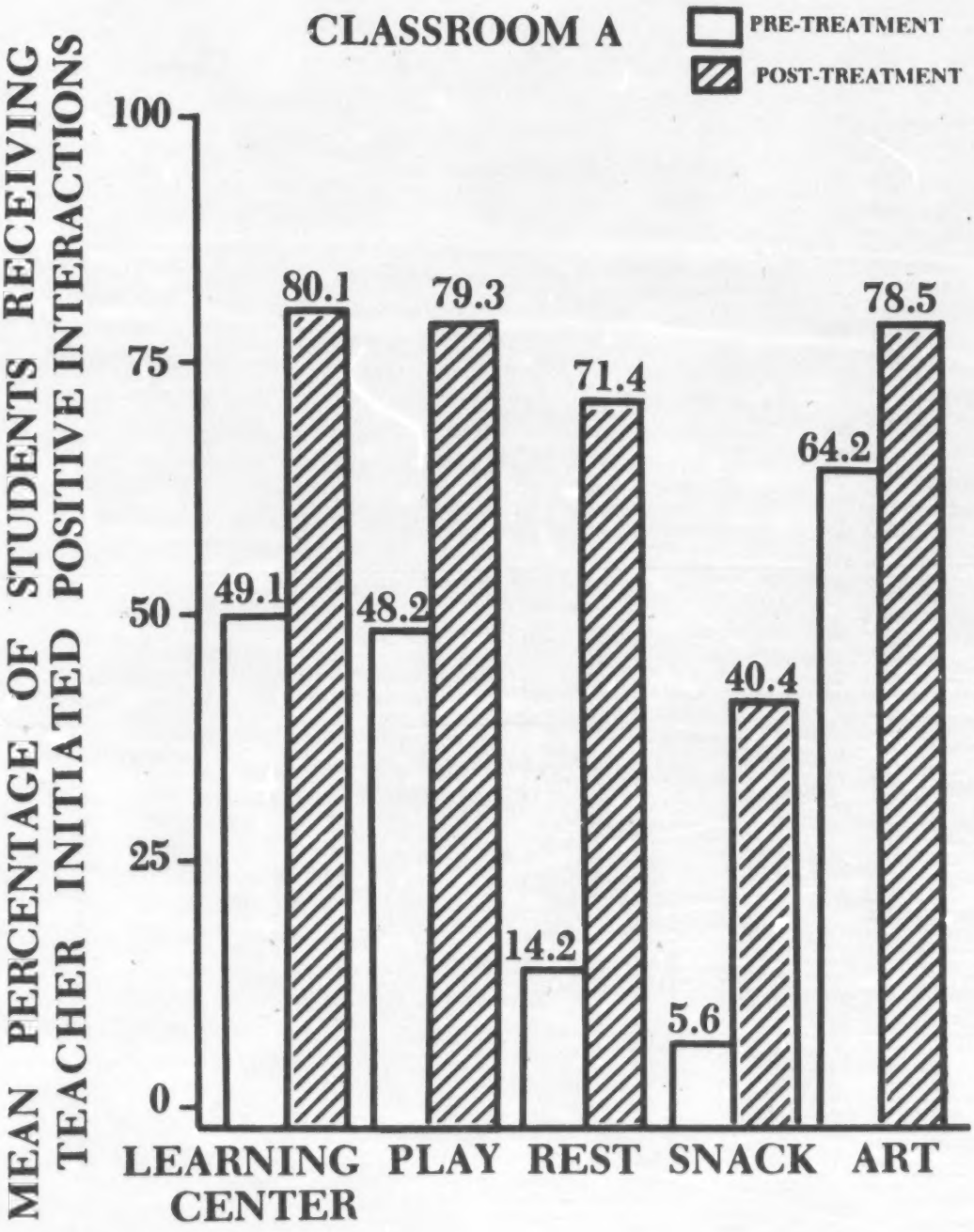

Fig. 12. A comparison of the mean percentages of students receiving teacher initiated positive interaction during Pre-treatment and Post-treatment across activities for Classroom A.

55

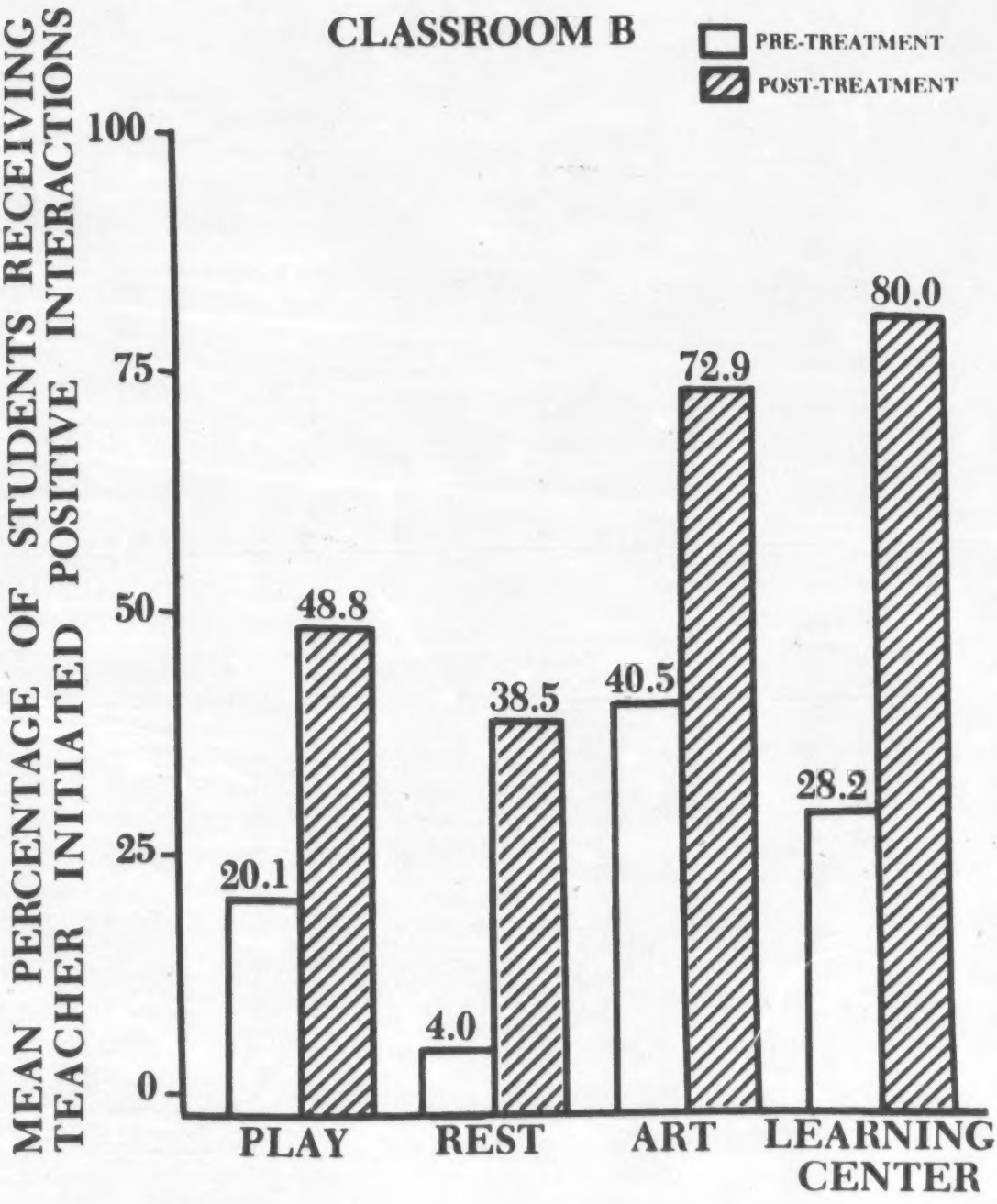

Fig. 13. A comparison of the mean percentages of students receiving teacher initiated positive interaction during Pre-treatment and Post-treatment across activities for Classroom B.

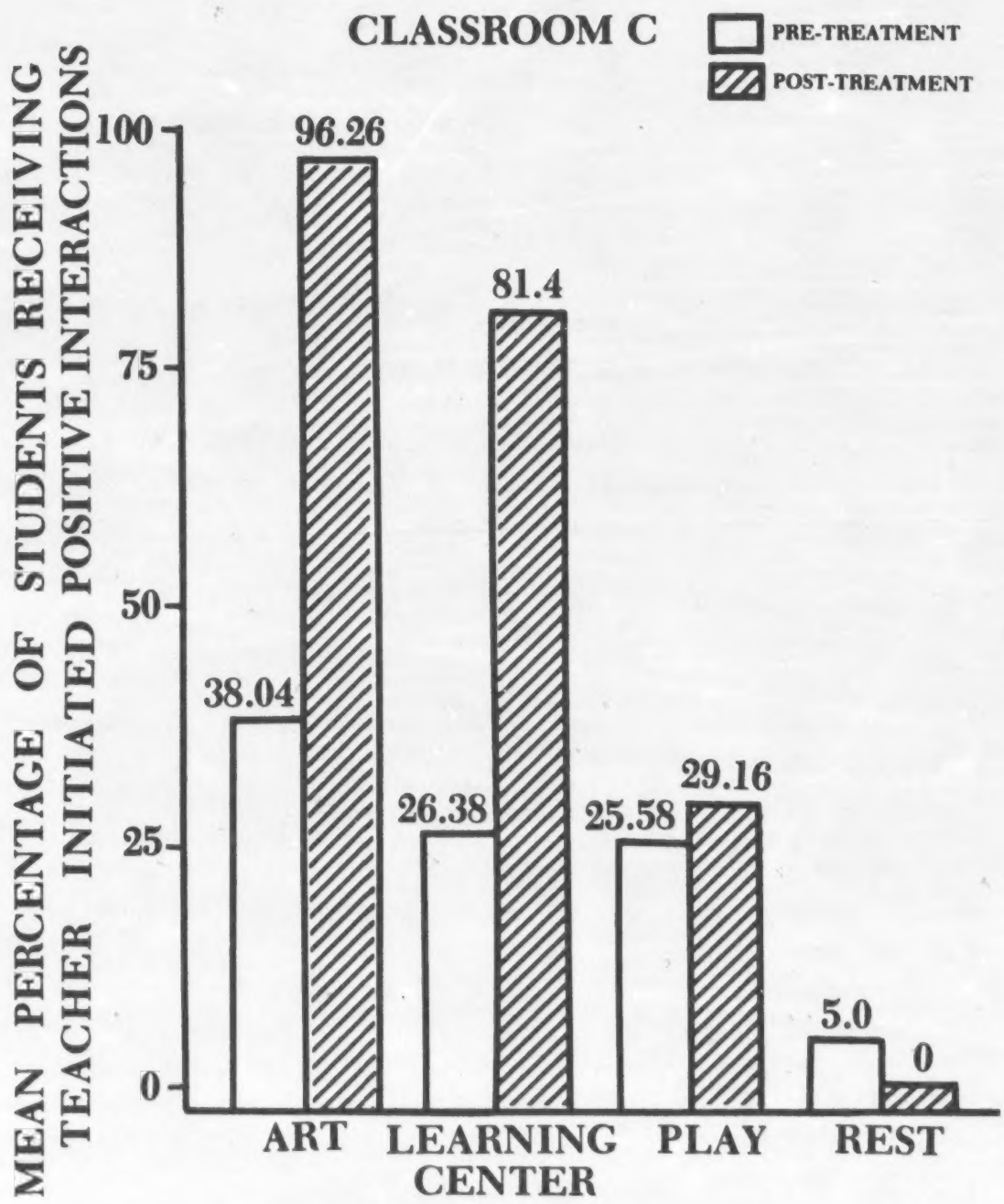

Fig. 14. A comparison of the mean percentages of students receiving teacher initiated positive interaction during Pre-treatment and Post-treatment across activities for Classroom C.

In addition to increasing their rate of praise the teachers also increased the proportion of positive interactions. As can be seen in figures 5, 6, and 7, all teachers dramatically increased their percentage of positive interactions. The importance of this occurrence should not be minimized. While it is desirable for teachers to increase the rates of positive interactions it is just as desirable to decrease the rates of negative interactions. Thus an increase in the percentage of positive interactions reflect the above change. The result is also summerized in figure 8 for all classrooms.

A further analysis of the data reveals an additional change in teacher behavior. Notonly were teachers more positive to the children as a result of being required to "catch four children being good" but in addition were more positive to more children. Figures 9, 10 and 11 display the percentage of students receiving teachers initiated positive interactions. This does not include any positive interaction which was the result of the teachers receiving a cue. The data represents a dramatic positive change on part of the teachers "own" behavior.

Finally figures 12, 13 and 14 display the average percentages of students receiving teachers initiated positive interaction in each activity held for Classroom A, B and C respectively. As can be seen after the Positive Practice procedure was withdrawn, teachers in all classrooms were more positive to their students.

DISCUSSION

The effect of applying a Positive Practice procedure to classroom teachers resulted in changes being observed in both positive and negative interaction rates. While differences in the amount of reduction occurring in the emitted negative interactions were observed for all classrooms varying from 79 to 18 percent it should be pointed out that this may have been due to the differences of the operant levels of each classroom teacher. Thus teacher B and teacher C were approximately less than one-half as negative as teacher A which may explain why teacher A showed the greatest suppression in responding during post-treatment conditions as compared to pre-treatment.

Data were not gathered on students appropriate and inappropriate classroom behaviors therefore, only hypothetical remarks can be made as to what was the variable responsible for maintaining the negative interaction operant levels of each teacher. Since the definition of a negative interaction was a broad one,

responses that were both appropriate and inappropriate on the part of the teacher were observed. Although these responses were not recorded as to their appropriateness one might conclude that the post-treatment level of negative interactions consisted of interactions which were necessary to maintain a safe and non-destructive environment for the students. Thus it is possible that remarks such as "Please get off the table this minute" were in the category which suppressed the most as compared to remarks such as "We don't fight in school." Following Drabman and Lahy (1974) it may be desirable for a student to receive both positive and negative comments from teachers. To maintain the four to one praise criterion ratio suggested by Madsen and Madsen (1974) then, it would be inappropriate for a suppression of negative interactions to reach near zero levels. The suppression that did result may have occurred as a result of the punishing effects of Positive Practice or as a result of changing students behavior. Drabman and Lahy (1974) for example, decreased negative comments by a teacher to a target child by giving feedback to the child concerning her behavior. As her behavior became more appropriate, the teacher's negative comments decreased. Similarly, teachers in classrooms A, B and C may have decreased responding not only due to Positive Practice but also as a result of student behavior.

A stronger argument however, supports the conceptualization of Positive Practice as a punishment technique. Punishment according to Azrin and Holz ". . . is a reduction of the future probability of a specific response as a result of the immediate delivery of a stimulus for that response" (Honig, 1966, p. 381). If negative teacher interactions decreased as a result of student behavior one might suspect that the behavior change may be observed at other activities that those where treatment was applied. The multiple baseline design however, supports the argument that treatment was responsible for the observed behavior change and not student behavior.

As with Ringer (1973) it does not necessarily follow that achieving classroom control brings about an increase in teacher praise. Thus the re-educational aspect of Positive Practice stressed by Azrin and Powers (in press) is supported by observing the increases in positive teacher interactions during treatment and post-treatment. Post-treatment positive interactions increased an additional 124, 270 and 242 percent for classrooms A, B and C respectively over the pre-treatment levels. In addition to an increase in the rate of positive interactions, the percentage of students receiving those

interactions approximately doubled. Thus the treatments effect was not only to focus teacher's attention to how much praise to emit, but possibly in re-evaluation, to what students were receiving that praise. During the study at one time or another each teacher remarked that the procedure made her more aware that she may have had "favorites" and was consciously trying to insure that all of the students received some praise during the day. Curiously enough at no time during the study were teachers told that one of the target behaviors was increasing teachers praise to students.

Although it is premature to speculate, data is currently being generated which supports an ever greater treatment effect when the teachers are completely aware of the target behaviors. Such praise-criticism ratios have been observed to be as high as 50-1.

As a treatment strategy to be administered by a psychologist, much is to be investigated. Fading procedures may reveal what schedule of cueing is most effective in maintaining the four to one praise-criticism ratio after treatment. For example, one may withdraw treatment by cueing every other negative interaction for one week followed by cueing every third negative interaction the following week, etc. The effect of Positive Practice used in combination with other procedures such as feedback and praise may also be investigated. It is possible that the feedback procedure used by Parsonson, Baer and Baer (1974), the praise condition of Cossairt, Hall and Hopkins (1973) and the Positive Practice procedure of "catching four children being good" might be an effective treatment "package" to be used by those involved in teacher training.

If further research validates the finding that "catching four children being good" does indeed act as a punishment procedure and suppresses the response which preceded the delivery of the cue then serious consideration must be given to the timing of the cue delivery. Delivering cues at the mean rate of two per minute as in the Houten and Sullivan (1975) study may actually serve to suppress appropriate teacher behavior due to the idiosyncratic components of Positive Practice. It is suggested then that delivery cues contingent upon specific teacher behaviors may be more efficacious than a random delivery system.

Finally, the Positive Practice approach may be investigated by teachers themselves. A self-recording device may be used whenever teacher negative interactions occur along with a tally of positive teacher interactions. Following baseline the teacher may prompt herself to "catch four children being

good" whenever she self-records an emitted negative interaction. As Goetz, Holmberg and LeBlanc (1975) point out "In an applied setting, neatly constructed examples of experimental conditions are extremely unlikely to occur" (p. 81). Any investigation which would lead a teacher to rely on herself rather than on an outside observer delivering cues would be desirable. For example, to maintain an adequate rate of positive interactions and a low rate of negative interactions the teacher might set up a program where they are cued on intermittent days by the principle or other teacher and use self-recording on other days.

This study demonstrated that applying a procedure of requiring a teacher to "catch four children being good" contingent upon recorded negative interactions by an observer resulted in both rates of positive interactions and percentages of positive interactions more than doubling for all teachers receiving treatment. Further research is needed to validate this finding.

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